

Fig. 1

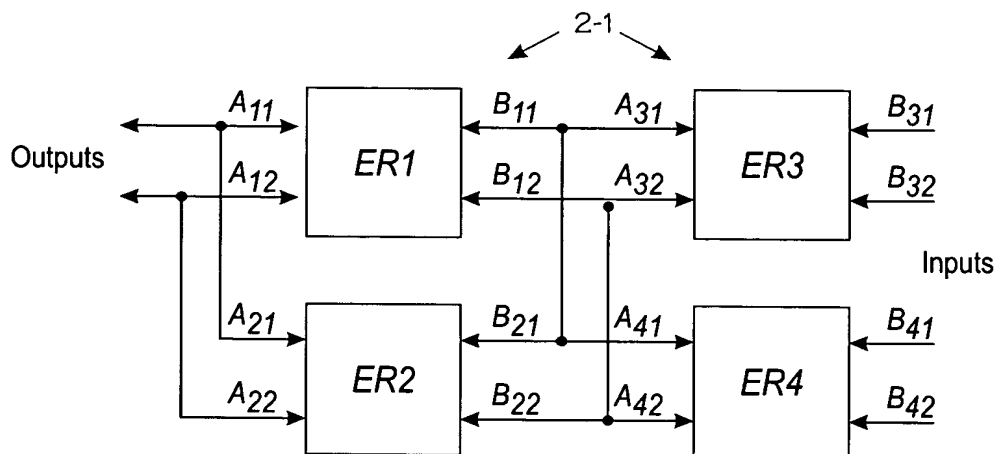


Fig. 2

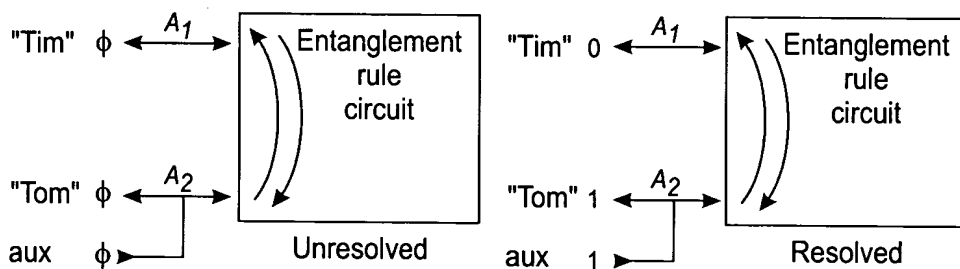


Fig. 3A

ϕ = Indefinite

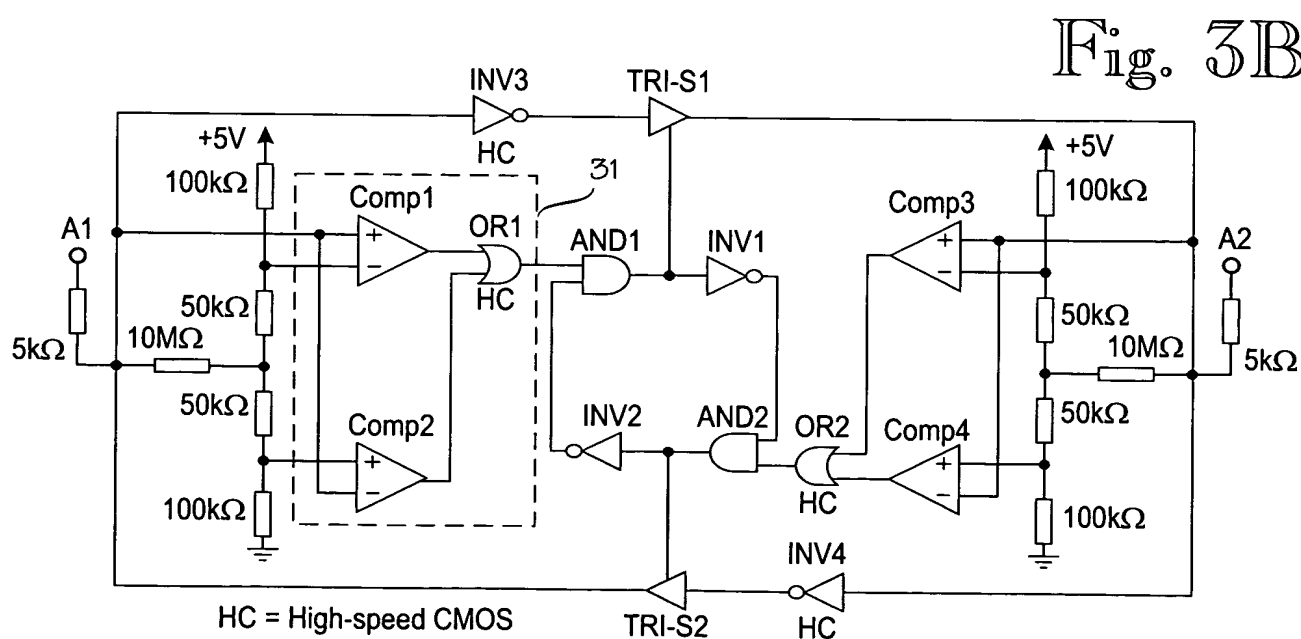
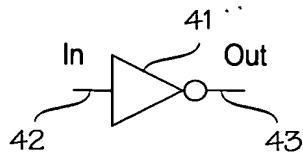
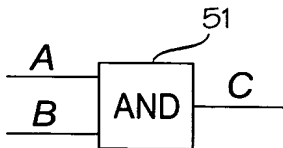


Fig. 3B



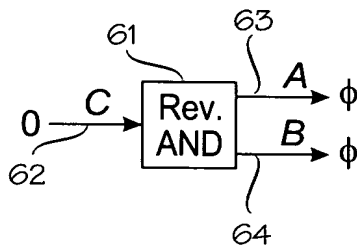
In	Out
0	1
1	0

Fig. 4



A	B	C
0	0	0
0	1	0
1	0	0
1	1	1

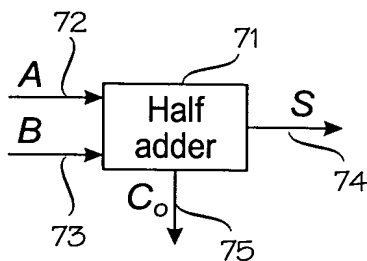
Fig. 5



C	A	B
0	φ	φ
1	1	1

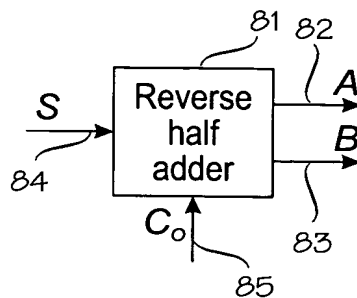
Fig. 6

$$\begin{cases} A=1 \rightarrow B=0 \\ B=1 \rightarrow A=0 \end{cases}$$



A	B	S	C _o
0	0	0	0
0	1	1	0
1	0	1	0
1	1	0	1

Fig. 7



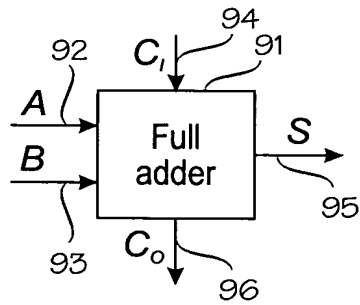
S	C _o	A	B
0	0	0	0
1	0	0	1
1	0	1	0
0	1	1	1

Fig. 8

$$\begin{cases} S=0 \text{ \& } C_o=0 \rightarrow A=B=0 \\ S=0 \text{ \& } C_o=1 \rightarrow A=B=1 \end{cases}$$

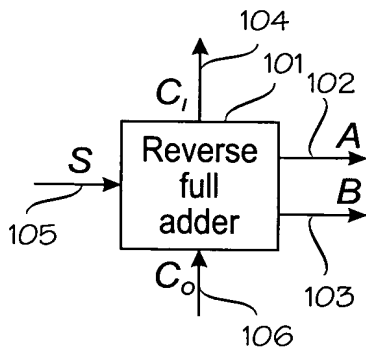
$$\begin{cases} \text{if } S=1 \text{ \& } C_o=0 \text{ then:} \\ \quad \text{if } A=1 \text{ then } B=0 \\ \quad \text{if } B=1 \text{ then } A=0 \end{cases}$$

Fig. 9



A	B	C_i	S	C_o
0	0	0	0	0
0	1	0	1	0
1	0	0	1	0
1	1	0	0	1
0	0	1	1	0
0	1	1	0	1
1	0	1	0	1
1	1	1	1	1

Fig. 10



S	C_o	A	B	C_i
0	0	0	0	0
1	0	0	1	0
1	0	1	0	0
1	0	0	0	1
0	1	1	1	0
0	1	0	1	1
0	1	1	0	1
1	1	1	1	1

$$108 \left\{ \begin{array}{l} S=0 \text{ \& } C_o=0 \rightarrow A=B=C_l=0 \\ S=1 \text{ \& } C_o=1 \rightarrow A=B=C_l=1 \end{array} \right.$$

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if $S=1$ & $C_o=0$ then:

$$\left\{ \begin{array}{l} \text{if } A=1 \text{ then } B=C_i=0 \\ \text{if } B=1 \text{ then } A=C_i=0 \\ \text{if } C_i=1 \text{ then } A=B=0 \end{array} \right.$$

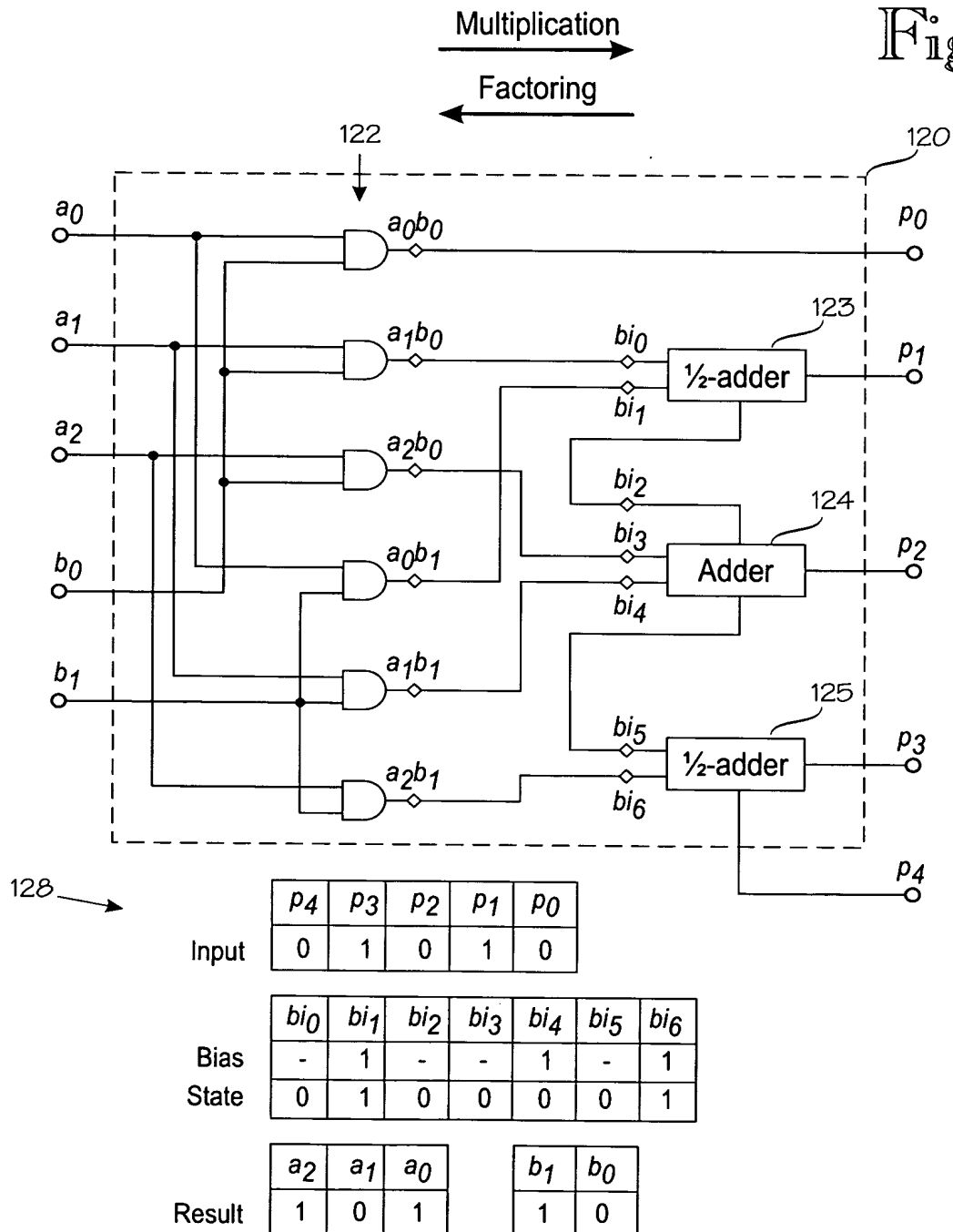
if $S=0$ & $C_o=1$ then:

$$\left\{ \begin{array}{l} \text{if } A=0 \text{ then } B=C_I=1 \\ \text{if } B=0 \text{ then } A=C_I=1 \\ \text{if } C_I=0 \text{ then } A=B=1 \end{array} \right.$$

Fig. 11

$$\begin{array}{r}
 \begin{array}{c} x \\ + \\ + \end{array}
 \begin{array}{r}
 \begin{array}{c} a2 \quad a1 \quad a0 \\ b1 \quad b0 \end{array} \\
 \hline
 a2b0 \quad a1b0 \quad a0b0 \\
 a2b1 \quad a1b1 \quad a0b1 \\
 \hline
 c2 \quad c1 \quad c0 \\
 \hline
 p4 \quad p3 \quad p2 \quad p1 \quad p0
 \end{array}
 \end{array}$$

Fig. 12



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↓

no	p4	p3	p2	p1	p0	a2	a1	a0	b1	b0	Result	Comment
0	0	0	0	0	0	0	0	0	0	0	0x0	Ok
1	0	0	0	0	1	0	0	1	0	1	1x1	Ok
2	0	0	0	1	0	0	0	1	1	0	1x2	Ok
3	0	0	0	1	1	0	0	1	1	1	1x3	Ok
4	0	0	1	0	0	0	1	0	1	0	2x2	Ok
5	0	0	1	0	1	0	1	1	1	1	-	False
6	0	0	1	1	0	0	1	1	1	0	3x2	Ok
7	0	0	1	1	1	0	1	1	1	1	-	False
8	0	1	0	0	0	1	0	0	1	0	4x2	Ok
9	0	1	0	0	1	1	0	1	1	1	-	False
10	0	1	0	1	0	1	0	1	1	0	5x2	Ok
11	0	1	0	1	1	1	0	1	1	1	-	Overflow
12	0	1	1	0	0	1	1	0	1	0	6x2	Ok
13	0	1	1	0	1	1	0	1	1	1	-	Overflow
14	0	1	1	1	0	1	1	1	1	0	7x2	Ok
15	0	1	1	1	1	1	1	1	1	0	-	False
16	1	0	0	0	0	0	1	1	1	0	-	Overflow
17	1	0	0	0	1	1	1	1	0	1	-	Overflow
18	1	0	0	1	0	1	1	1	0	1	-	False
19	1	0	0	1	1	1	1	1	1	1	-	Overflow
20	1	0	1	0	0	1	1	1	1	1	-	Overflow
21	1	0	1	0	1	1	1	1	1	1	7x3	Ok

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Fig. 14

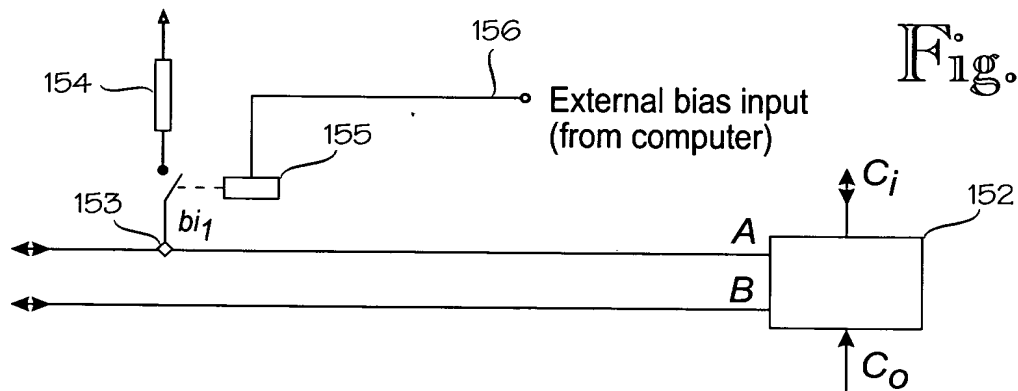
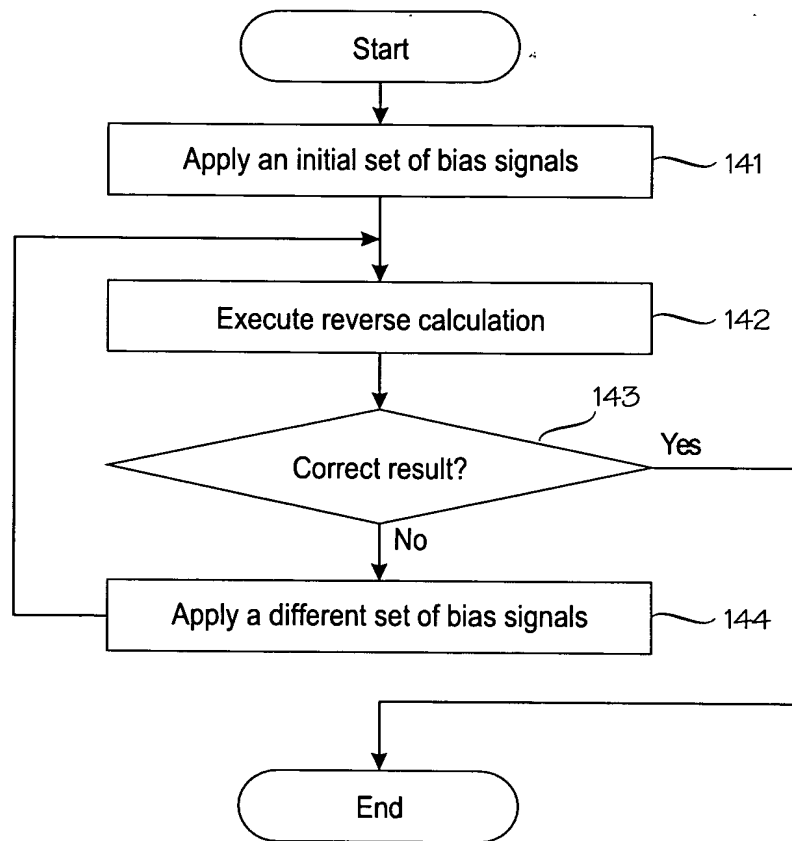


Fig. 15

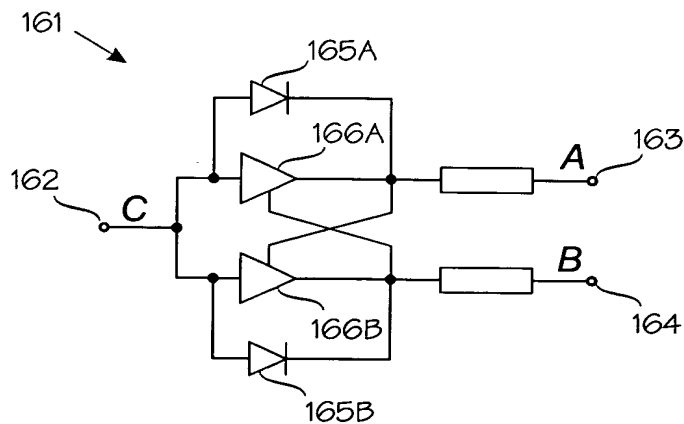


Fig. 16

